MITSUBISHI ELECTRIC

Changes for the Better

FLOOR AND CEILING TYPE AIR CONDITIONERS

Revision A:
- MCFZ-A18WV-E1 and MCFZ-A24WV-E1 have been added.

Please void OB344.

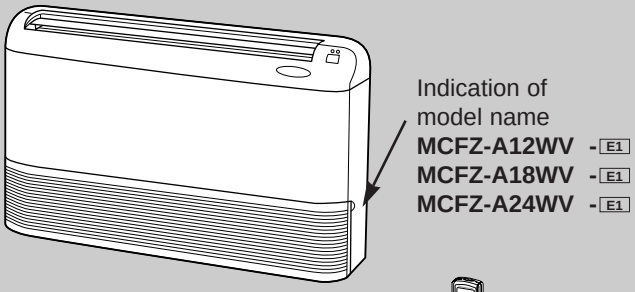
No. OB344
REVISED EDITION-A

SERVICE MANUAL

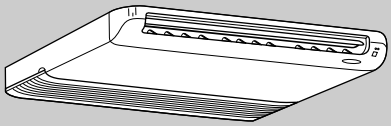
Wireless type
Models

MCFZ-A12WV -E1(WH)
MCFZ-A18WV -E1(WH)
MCFZ-A24WV -E1(WH)

(When installed on the floor)



(When installed on the ceiling)



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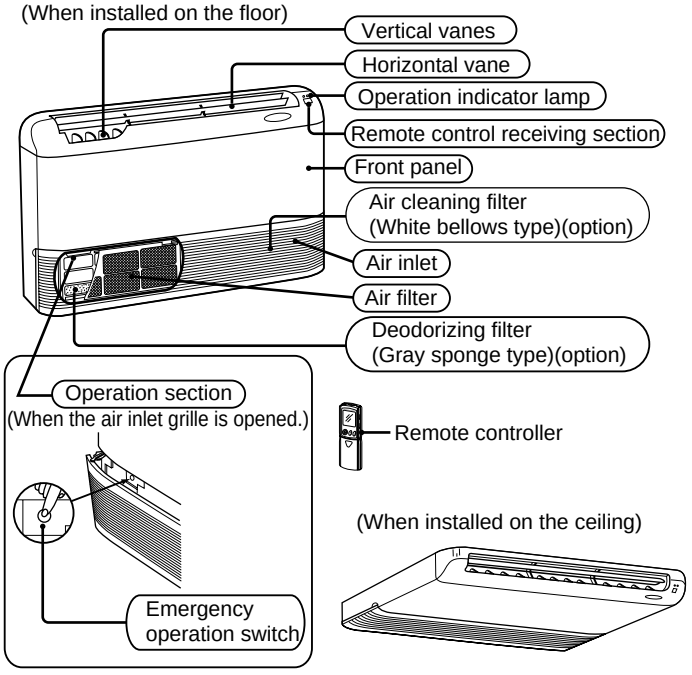
NOTE:
- This service manual describes technical data of indoor units.
- As for outdoor units MUZ-A12YV -E1 and MUZ-A12YVH -E1, refer to the service manual OB328 REVISED EDITION-A.
- As for outdoor units MUZ-A18YV -E1 and MUZ-A24YV -E1, refer to the service manual OB346 REVISED EDITION-A.

CE

1 PART NAMES AND FUNCTIONS

MCFZ-A12WV -E1 MCFZ-A18WV -E1 MCFZ-A24WV -E1

INDOOR UNIT

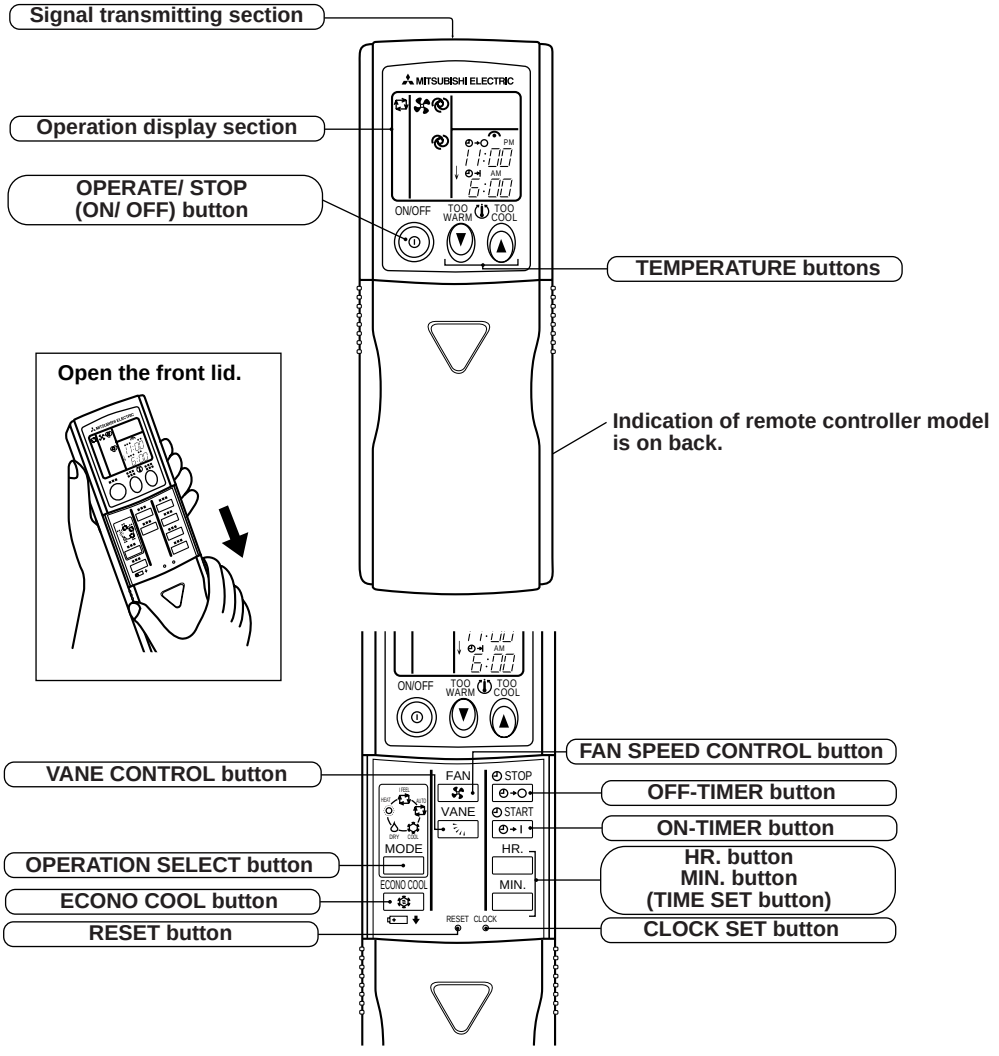


ACCESSORIES

	Item	Q'ty
①	Installation plate	2
②	Unit fixing screw 5 × 12mm	2
③	Wireless remote controller	1
④	Remote controller holder	1
⑤	Fixing screw for ④ 3.5 × 16mm (Black)	2
⑥	Battery (AAA) for remote controller	2
⑦	Drain hose	1
⑧	Drain pipe cover	1
⑨	Knockout cover	1
⑩	Screw for ⑨ 4 × 10mm	2

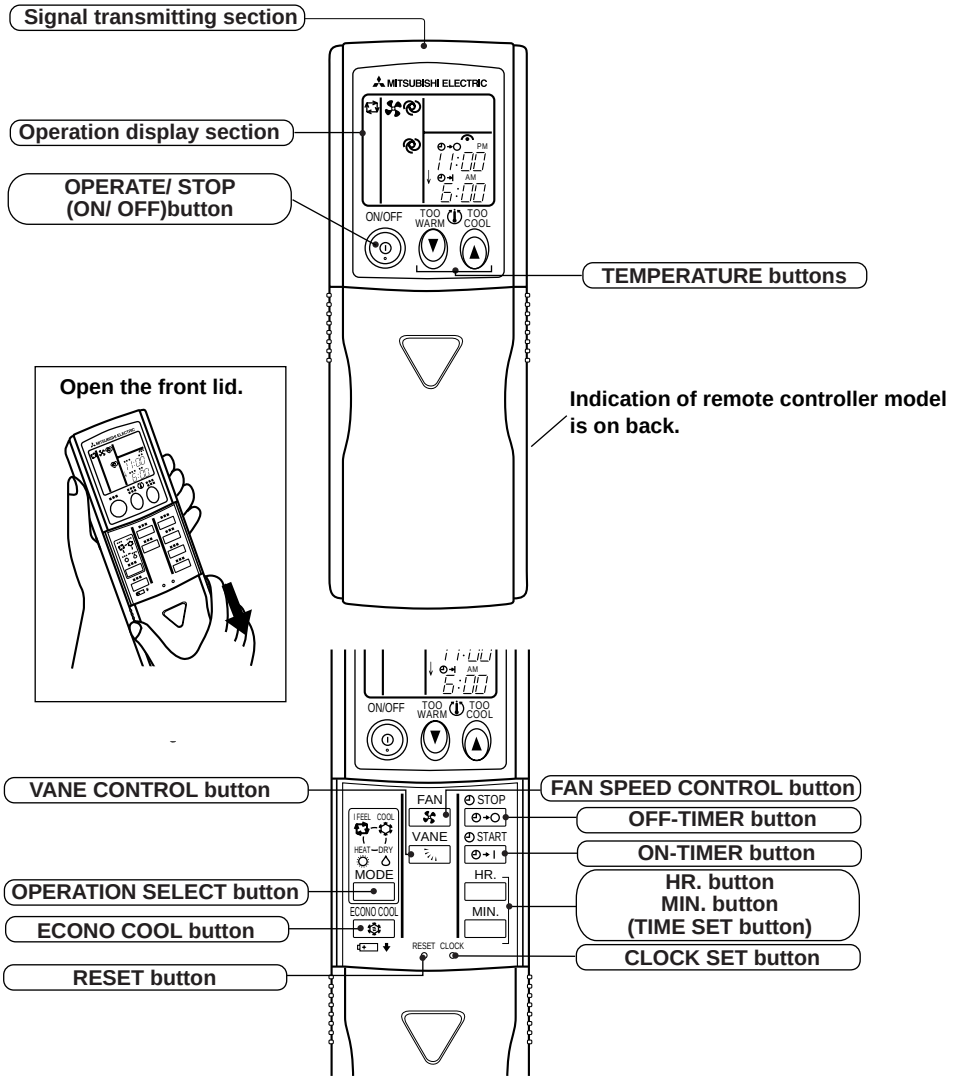
MCFZ-A12WV -E1

REMOTE CONTROLLER



MCFZ-A18WV -E1 MCFZ-A24WV -E1

REMOTE CONTROLLER



2 SPECIFICATION

Indoor model			MCFZ-A12WV - E1		MCFZ-A18WV - E1		MCFZ-A24WV - E1	
Function			Cooling	Heating	Cooling	Heating	Cooling	Heating
Power supply			Single phase 230V, 50Hz		Single phase 230V, 50Hz		Single phase 230V, 50Hz	
Capacity	Air flow(High/Med.※/Low※)	m³ /h	780/636※/492※		840/696※/570※		840/744※/642※	
Electrical data	Power outlet	A	10		10		10	
	Running current ✻1	A	0.30		0.36		0.36	
	Power input ✻1	W	66		80		80	
	Auxiliary heater	A(kW)	—	—	—	—	—	—
	Power factor ✻1	%	96		97		97	
	Fan motor current ✻1	A	0.30		0.36		0.36	
Fan motor	Model		RB4V25-AC		RB4V36-AC		RB4V36-DB	
	Winding resistance(at 20℃)	Ω	WHT-BLK 182.2 BLK-YLW 68.9 YLW-BLU 47.5 BLU-BRN 31.5 BRN-RED 22.9		WHT-BLK 82.9 BLK-YLW 65.6 YLW-BLU 36.0 BLU-BRN 27.0 BRN-RED 13.7		WHT-BLK 84.0 BLK-YLW 46.2 YLW-BLU 37.2 BLU-BRN 45.2 BRN-RED 13.6	
	Dimensions W×H×D	mm	1,100 × 650 × 180		1,100 × 650 × 180		1,100 × 650 × 180	
	Weight	kg	25		25		25	
Special remarks	Air direction		5		5		5	
	Sound level(High/Med.※/Low※)	dB	46/41※/35※		48/44※/39※		48/45※/42※	
	Fan speed(High/Med.※/Low※)	rpm	1,240/1,060※/845※		1,320/1,145/960		1,320/1,190/1,060	
	Fan speed regulator		3		3		3	
	Thermistor RT11(at 25℃)	kΩ	10		10		10	
	Thermistor RT12(at 25℃)	kΩ	10		10		10	
	Remote controller model		KG04B		KG04C		KG04C	

NOTE: Test conditions are based on ISO 5151
Cooling : Indoor Dry-bulb temperature 27°C Wet-bulb temperature 19°C
Outdoor Dry-bulb temperature 35°C Wet-bulb temperature (24°C)
Heating : Indoor Dry-bulb temperature 20°C Wet-bulb temperature 15°C
Outdoor Dry-bulb temperature 7°C Wet-bulb temperature 6°C
Indoor-Outdoor piping length (one way) : 5 m
※ Reference value
✻1 Measured under rated operating frequency.

Specifications and rating conditions of main electric parts

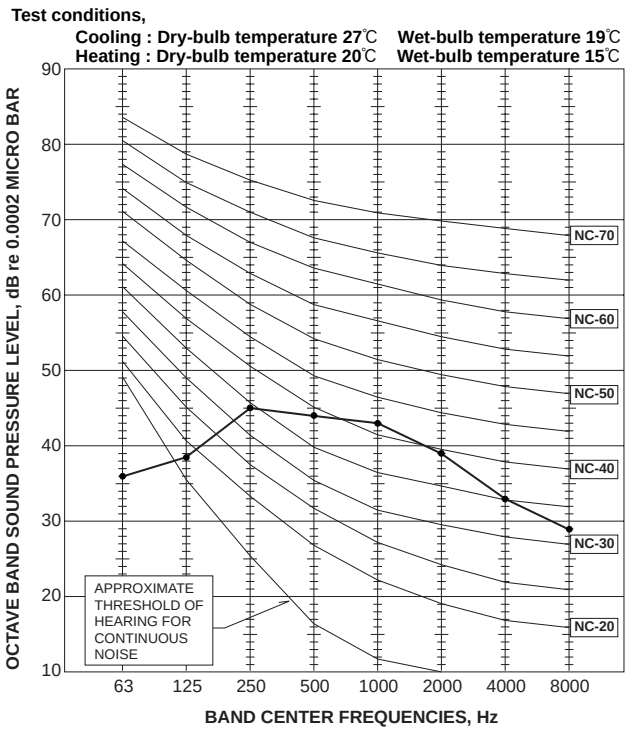
INDOOR UNIT

Item \ Model	MCFZ-A12WV - E1	MCFZ-A18WV - E1	MCFZ-A24WV - E1
Indoor fan capacitor (C11)	1.8μF 440V		
Fuse (F11)	250V 3.15A		
Vane motor (MV)	MP20 12V 250Ω		
Varistor (NR11)	ERZV10D471/ TNR10V471K410		
Solid state relay (SR141~SR143)	AQG12212/ G3MC-201PL		
Terminal block (TB1/TB2)	3P/ 4P		
Relay (X144)	G5NB-1A-DC12V/ G5N-1A-DC12V		
Compressor contactor (52C)	ALF1T12	–	
Indoor fan motor thermal fuse	145 ± 2℃		

3 NOISE CRITERIA CURVES

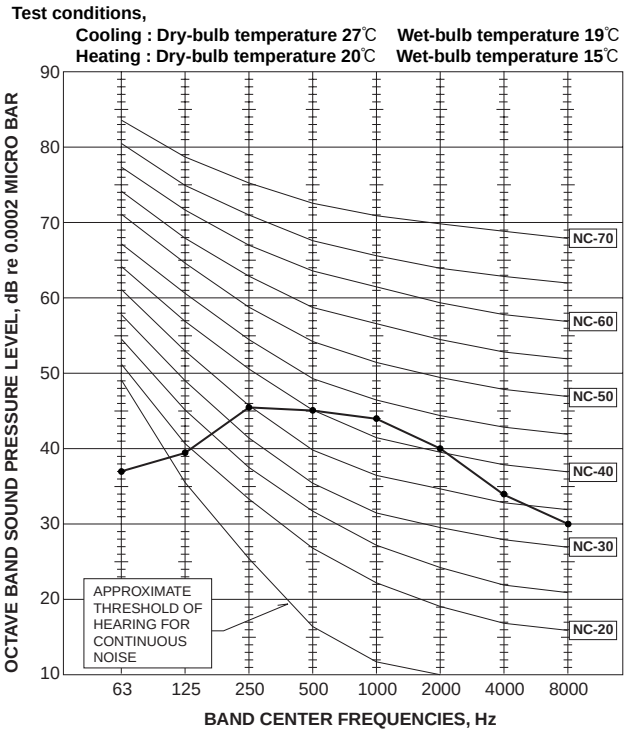
MCFZ-A12WV - E1

SPEED	SPL(dB(A))	LINE
High	46	



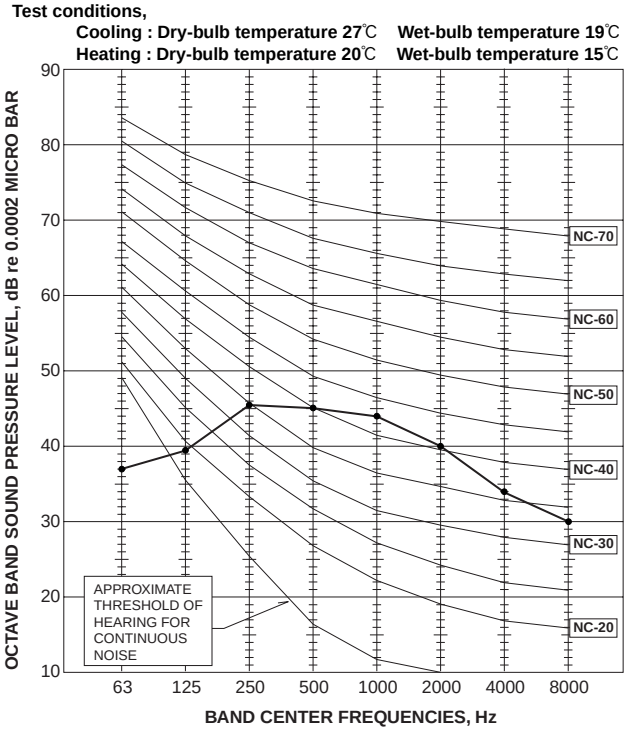
MCFZ-A18WV - E1

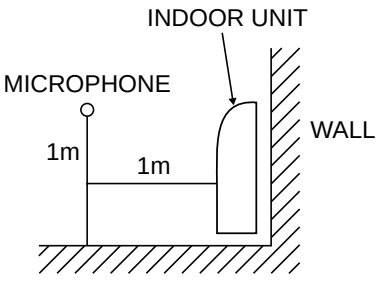
SPEED	SPL(dB(A))	LINE
High	48	



MCFZ-A24WV - E1

SPEED	SPL(dB(A))	LINE
High	48	



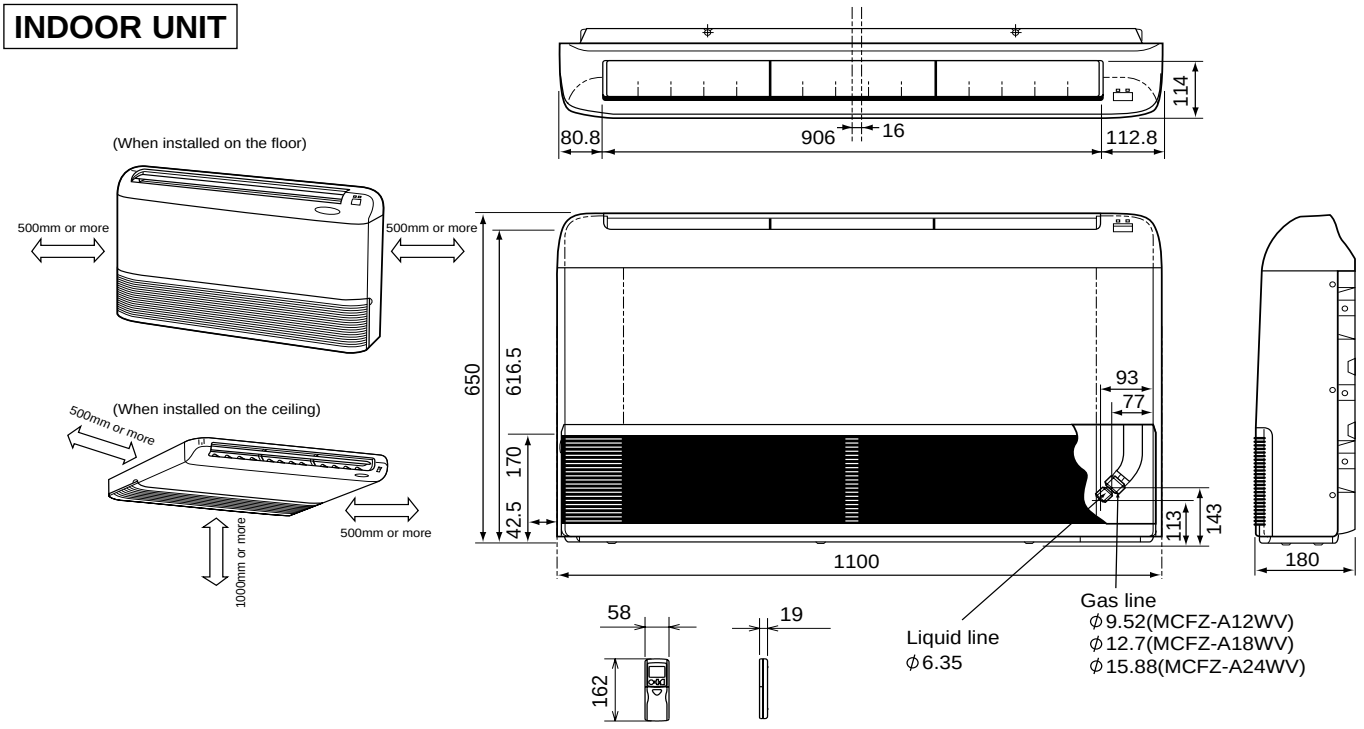


4 OUTLINES AND DIMENSIONS

MCFZ-A12WV -E1 MCFZ-A18WV -E1 MCFZ-A24WV -E1

Unit: mm

INDOOR UNIT



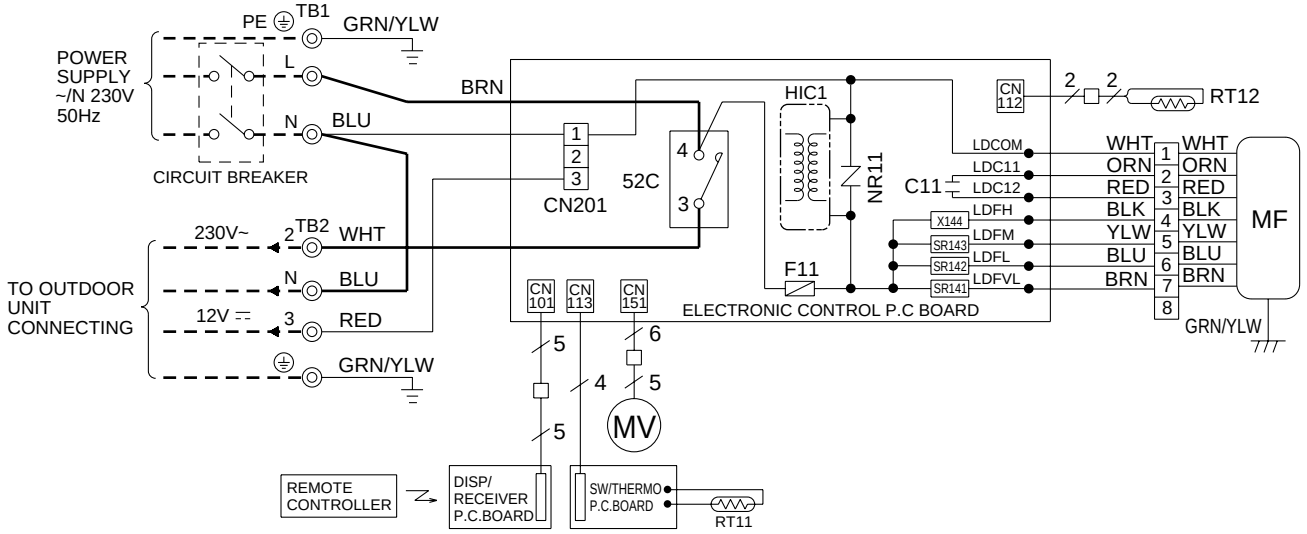
Wireless remote controller

5 WIRING DIAGRAM

MCFZ-A12WV -E1

MODEL WIRING DIAGRAM

INDOOR UNIT

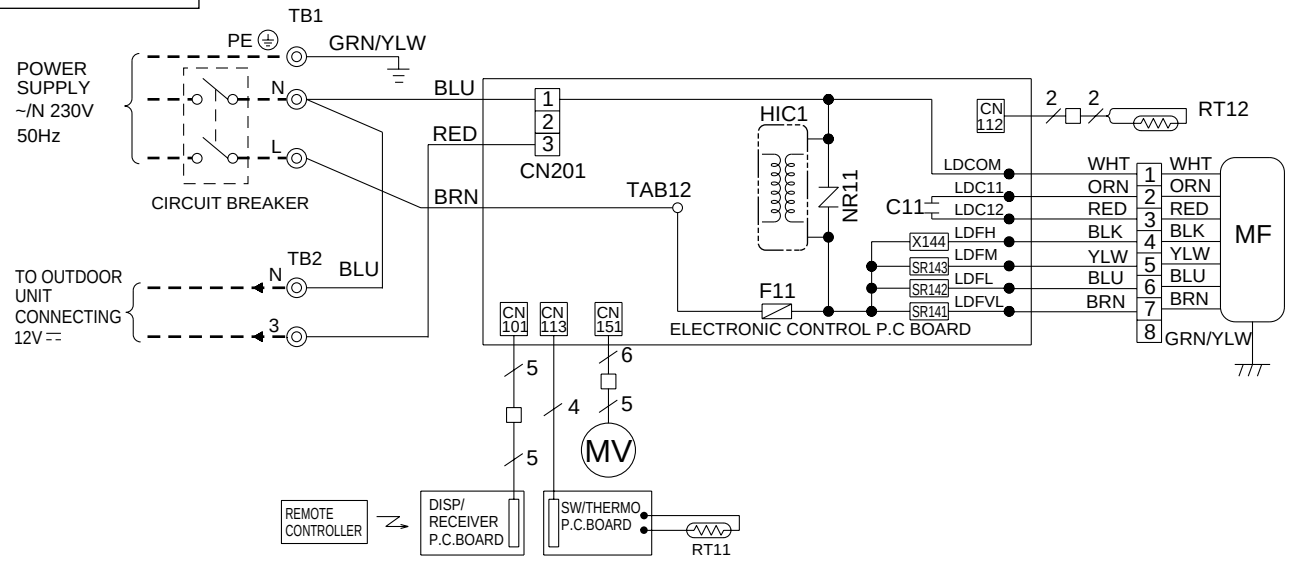


SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C11	INDOOR FAN CAPACITOR	MV	VANE MOTOR	SR141~SR143	SOLID STATE RELAY
F11	FUSE (3.15A)	NR11	VARISTOR	TB1, TB2	TERMINAL BLOCK
HIC1	DC/DC CONVERTER	RT11	ROOM TEMPERATURE THERMISTOR	X144	RELAY
MF	INDOOR FAN MOTOR(INNER FUSE)	RT12	INDOOR COIL THERMISTOR	52C	COMPRESSOR CONTACTOR

NOTES: 1.About the outdoor side electric wiring refer to the outdoor unit electric wiring diagram for servicing.
2.Use copper conductors only. (For field wiring)
3.Symbols below indicate.
◎ : Terminal block ⊏⊐⊏⊐ : Connector

MCFZ-A18WV - E1 MODELS WIRING DIAGRAM
MCFZ-A24WV - E1

INDOOR UNIT



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
C11	INDOOR FAN CAPACITOR	MV	VANE MOTOR	SR141~SR143	SOLID STATE RELAY
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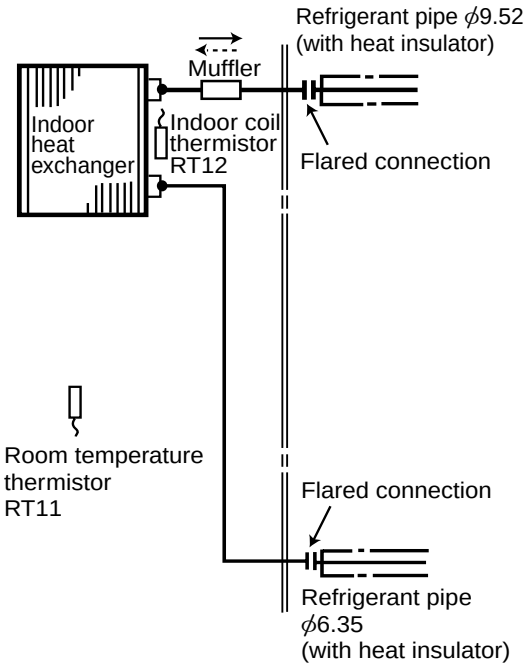
HIC1	DC/DC CONVERTER	RT11	ROOM TEMPERATURE THERMISTOR	X144	RELAY
MF	INDOOR FAN MOTOR(INNER FUSE)	RT12	INDOOR COIL THERMISTOR		

NOTES: 1.About the outdoor side electric wiring refer to the outdoor unit electric wiring diagram for servicing.
2.Use copper conductors only. (For field wiring)
3.Symbols below indicate.
◎ : Terminal block ⊏⊐⊐⊐ : Connector

6 REFRIGERANT SYSTEM DIAGRAM

MCFZ-A12WV- E1

INDOOR UNIT

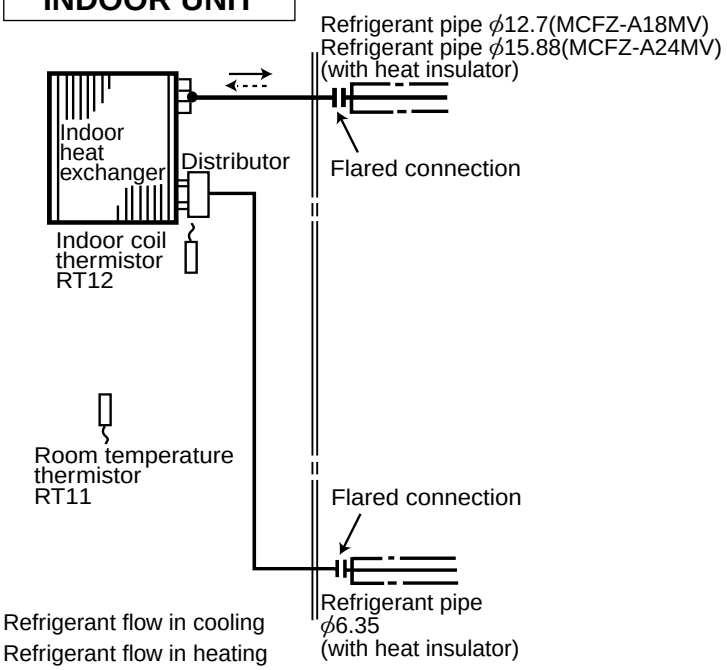


MCFZ-A18WV- E1

MCFZ-A24WV- E1

INDOOR UNIT

Unit : mm



⟶ Refrigerant flow in cooling

⇢ Refrigerant flow in heating

7 SERVICE FUNCTIONS

MCFZ-A12WV - E1 MCFZ-A18WV - E1 MCFZ-A24WV - E1

7-1. TIMER SHORT MODE

For service, set time can be shortened by short circuit of JPG and JPS on the electronic control P.C. board.
The time will be shortened as follows. (Refer to page 17 or 18.)
3-minutes time delay : 3-minutes → 3-seconds
Set time : 1 minute ➔ 1-second
Set time : 3 minute ➔ 3-second (It takes 3 minutes for the compressor to start operation. However, the starting time is shortened by short circuit of JPG and JPS.)

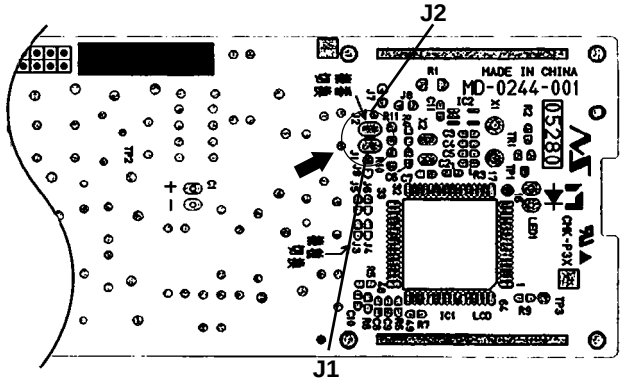
7-2. P.C. BOARD MODIFICATION FOR INDIVIDUAL OPERATION

A maximum of 4 indoor units with wireless remote controllers can be used in a room. In this case, to operate each indoor unit individually by each remote controller, P.C. boards of remote controller must be modified according to the number of the indoor unit.

How to modify the remote controller P.C. board

Remove batteries before modification. The board has a print as shown below;

Remote controller model : KG04B(MCFZ-A12WV),KG04C(MCFZ-A18/A24WV)



NOTE : For remodelling, take out the batteries and press the OPERATE/STOP(ON/OFF) button twice or 3 times at first.
After finish remodelling, put back the batteries then press the RESET button.

The P.C. board has the print “J1” and “J2”. Solder “J1” and “J2” according to the number of indoor unit as shown in Table 1. After modification, press the RESET button.

Table1.

	1 unit operation	2 units operation	3 units operation	4 units operation
No. 1 unit	No modification	Same as at left	Same as at left	Same as at left
No. 2 unit	–	Solder J1	Same as at left	Same as at left
No. 3 unit	–	–	Solder J2	Same as at left
No. 4 unit	–	–	–	Solder both J1 and J2

How to set the remote controller exclusively for particular indoor unit

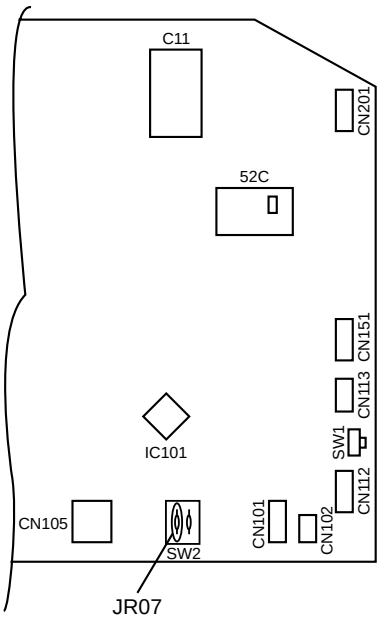
After you turn the breaker ON, the first remote controller that sends the signal to the indoor unit will be regarded as the remote controller for the indoor unit.
The indoor unit will only accepts the signal from the remote controller that has been assigned to the indoor unit once they are set.
The setting will be cancelled if the breaker has turned off, or the power supply has shut down.
Please conduct the above setting once again after the power has restored.

7-3. AUTO RESTART FUNCTION

When the indoor unit is controlled with the remote controller, the operation mode, the set temperature, and the fan speed are memorized by the indoor electronic control P.C. board. The “AUTO RESTART FUNCTION” sets to work the moment power has restored after power failure.Then, the unit will restart automatically. However if the unit is operated in “I FEEL CONTROL” or “AUTO” mode before power failure, the operation is not memorized. In “I FEEL CONTROL” mode, the operation is decided by the initial room temperature.

How to release “AUTO RESTART FUNCTION”

①Turn off the main power for the unit.
②Pull out the electronic control P.C. board. (Refer to page 19.)
③Solder jumper wire to the JR07 on the indoor electronic control P.C. board. (Refer to page 17 or 18.)



Operation

①If the main power has been cut, the operation settings remain.
②After the power is restored, the unit restarts automatically according to the memory.(However, it takes at least 3 minutes for the compressor to start running.)

NOTE

- The operation settings are memorized when 10 seconds have passed after the indoor unit was operated with the remote controller.
- If main power is turned OFF or a power failure occurs while AUTO START/STOP timer is active, the timer setting is cancelled.
- If the unit has been off with the remote controller before power failure, the auto restart function does not work as the power button of the remote controller is off.
- To prevent breaker off due to the rush of starting current, systematize other home appliances not to turn on at the same time.
- When some air conditioners are connected to the same supply system, if they are operated before power failure, the starting current of all the compressors may flow simultaneously at restart.
  Therefore, the special counter-measures are required to prevent the main voltage-drop or the rush of the starting current by adding to the system that allows the units to start one by one.

8 TROUBLESHOOTING

MCFZ-A12WV -E1 MCFZ-A18WV -E1 MCFZ-A24WV -E1

8-1. Cautions on troubleshooting

1. Before troubleshooting, check the following:

(1) Check the power supply voltage.

(2) Check the indoor/outdoor connecting wire for mis-wiring.

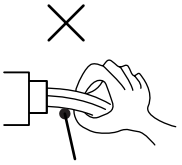
2. Take care the following during service.

(1) Before servicing the air conditioner, be sure to first turn off the remote controller to stop the main unit, and then after confirming the horizontal vane has completely closed, turn off the breaker.

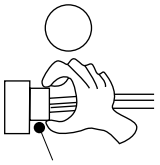
(2) Be sure to unplug the power cord before removing the air inlet grille, the front panel, the cabinet, the top panel and the electronic control P.C. boards.

(3) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.

(4) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.



Lead wiring



Housing point

3. Troubleshooting procedure

(1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.

(2) If the electronic control P.C. board is supposed to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.

(3) When troubleshooting, refer to the flow chart and the check table on page 11 and 12.

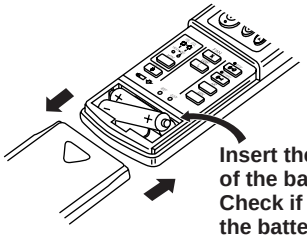
4. How to replace batteries

Weak batteries may cause the remote controller malfunction.

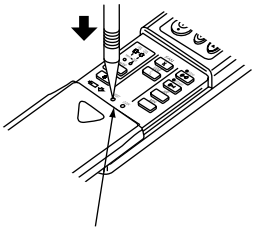
In this case, replace the batteries to operate the remote controller normally.

① Remove the front lid and insert batteries. Then reattach the front lid.

② Press the RESET button with tip end of ball point pen or the like, and then use the remote controller.



Insert the negative pole of the batteries first. Check if the polarity of the batteries are correct.



RESET button

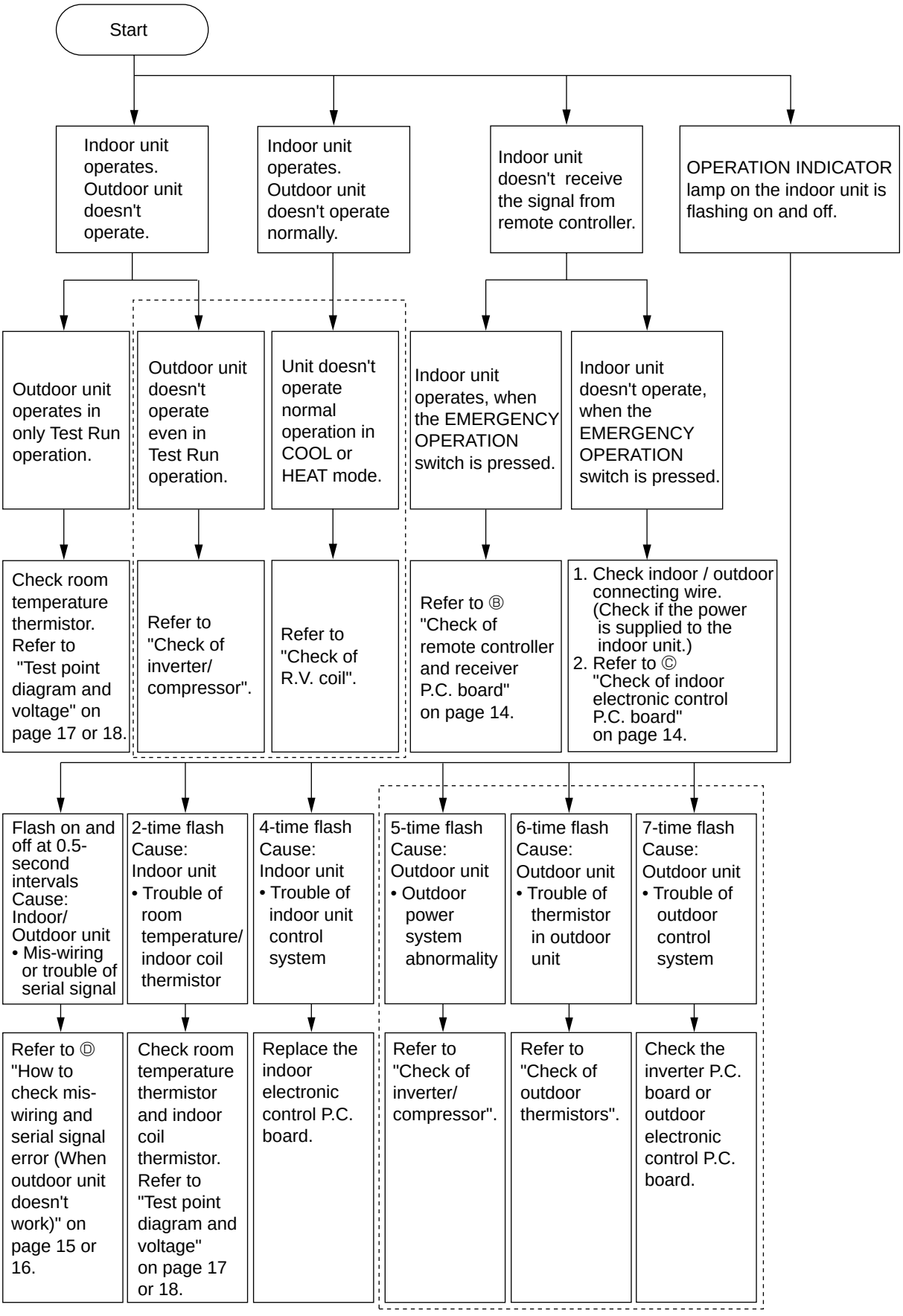
NOTE : 1.These figures show about MCFZ-A18WV or MCFZ-A24WV.

2. If the RESET button is not pressed, the remote controller may not operate correctly.

3. Remote controller of MCFZ-A12WV has a circuit to automatically reset the microcomputer when batteries are replaced.

This function is equipped to prevent the microcomputer from malfunctioning due to the voltage drop caused by the battery replacement.

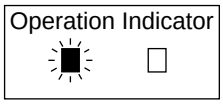
8-2. Instruction of troubleshooting


Start
Indoor unit operates. Outdoor unit doesn't operate.
Indoor unit operates. Outdoor unit doesn't operate normally.
Indoor unit doesn't receive the signal from remote controller.
OPERATION INDICATOR lamp on the indoor unit is flashing on and off.
Outdoor unit operates in only Test Run operation.
Outdoor unit doesn't operate even in Test Run operation.
Unit doesn't operate normal operation in COOL or HEAT mode.
Indoor unit operates, when the EMERGENCY OPERATION switch is pressed.
Indoor unit doesn't operate, when the EMERGENCY OPERATION switch is pressed.
Check room temperature thermistor. Refer to "Test point diagram and voltage" on page 17 or 18.
Refer to "Check of inverter/ compressor".
Refer to "Check of R.V. coil".
Refer to Ⓑ "Check of remote controller and receiver P.C. board" on page 14.
1. Check indoor / outdoor connecting wire. (Check if the power is supplied to the indoor unit.)
2. Refer to Ⓒ "Check of indoor electronic control P.C. board" on page 14.
Flash on and off at 0.5-second intervals Cause: Indoor/ Outdoor unit • Mis-wiring or trouble of serial signal
2-time flash Cause: Indoor unit • Trouble of room temperature/ indoor coil thermistor
4-time flash Cause: Indoor unit • Trouble of indoor unit control system
5-time flash Cause: Outdoor unit • Outdoor power system abnormality
6-time flash Cause: Outdoor unit • Trouble of thermistor in outdoor unit
7-time flash Cause: Outdoor unit • Trouble of outdoor control system
Refer to Ⓓ "How to check mis-wiring and serial signal error (When outdoor unit doesn't work)" on page 15 or 16.
Check room temperature thermistor and indoor coil thermistor. Refer to "Test point diagram and voltage" on page 17 or 18.
Replace the indoor electronic control P.C. board.
Refer to "Check of inverter/ compressor".
Refer to "Check of outdoor thermistors".
Check the inverter P.C. board or outdoor electronic control P.C. board.

As for outdoor units MUZ-A12YV and MUZ-A12YVH, refer to service manual OB328 REVISED EDITION-A.
As for outdoor units MUZ-A18YV and MUZ-A24YV, refer to service manual OB346 REVISED EDITION-A.

1. Troubleshooting check table

• The following indication applies regardless of shape of the indicator.



Lighted

Not lighted

· Flashing of the OPERATION INDICATOR lamp (left-hand side lamp) indicates possible abnormalities.
· The OPERATION INDICATOR lamp (left-hand side lamp) is lighting during normal operation.

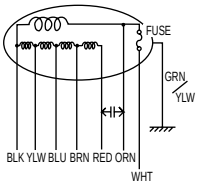
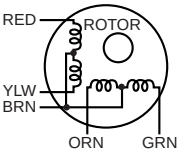
NOTE : Before taking measures, make sure that the symptom reappears for accurate troubleshooting.
Self check table

No.	Abnormal point	Operation indicator lamp	Symptom	Detection method	Check point
1	Mis-Wiring or Serial signal	0.5-second ON 0.5-second OFF	Outdoor unit does not operate.	3 minutes after power supply turns ON, when serial signal is not received.	• Refer to Ⓓ "How to check mis-wiring and serial signal error." on page 15 or 16.
2	Indoor coil thermistor Room tempera-ture thermistor	2-time flash 2.5-second OFF	Outdoor unit does not operate.	Detect Indoor coil/room temperature thermistor short or open circuit every 8 seconds during operation.	• Refer to the characteristics of indoor coil thermistor, and room temperature thermistor on page 17 or 18.
3	Indoor control system	4-time flash 2.5-second OFF	Outdoor unit does not operate.	When it cannot properly read data in the nonvolatile memory of indoor electronic control P.C. board.	• Replace the indoor electronic control P.C. board.
4	Outdoor power system	5-time flash 2.5-second OFF	Outdoor unit does not operate.	When it consecutively occurs 3 times that compressor stops for overcurrent protection within 1 minute after start-up.	• Refer to "Check of inverter/ compressor". Refer to service manual OB328 REVISED EDITION-A or OB346 REVISED EDITION-A.
5	Outdoor thermistor	6-time flash 2.5-second OFF	Outdoor unit does not operate.	<Thermistor short> Thermistors are abnormal when they short after compressor start-up. <Thermistor open> Thermistors are abnormal when they open after compressor start-up. However, discharge temperature thermistor is abnormal when open circuit is detected more than 10 minutes after compressor start-up.	• Shortage of refrigerant. Refer to "Check of outdoor thermistor". Refer to service manual OB328 REVISED EDITION-A or OB346 REVISED EDITION-A.
6	Outdoor control system	7-time flash 2.5-second OFF	Outdoor unit does not operate.	When it cannot properly read data in the nonvolatile memory of inverter P.C. board or outdoor electronic control P.C. board.	• Check the inverter P.C. board or outdoor electronic control P.C. board. Refer to service manual OB328 REVISED EDITION-A or OB346 REVISED EDITION-A.

2. Trouble criterion of main parts

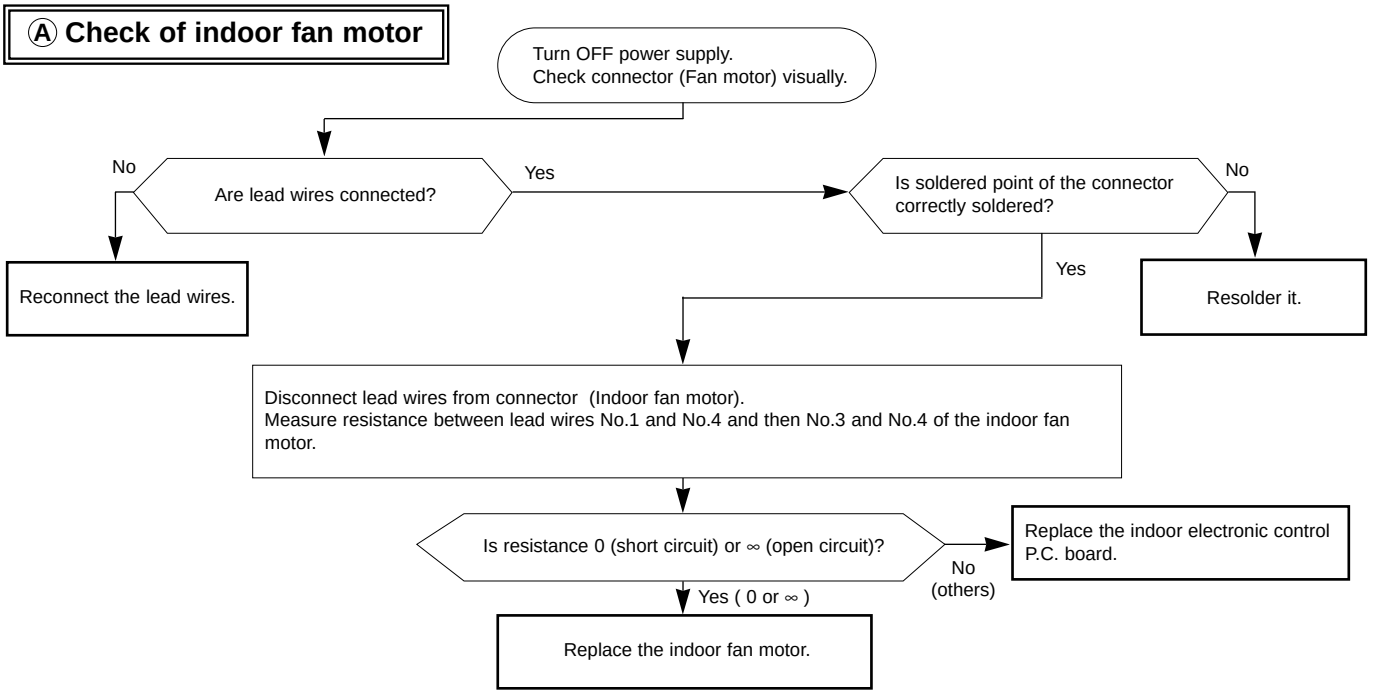
MCFZ-A12WV -E1 MCFZ-A18WV -E1 MCFZ-A24WV -E1

<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Room temperature thermistor (RT11)
Indoor coil thermistor (RT12)</td><td>Measure the resistance with a tester.
(Part temperature 10°C ~ 30°C)
<table>
<tr><th>Normal</th><th>Abnormal</th></tr>
<tr><td>8kΩ ~ 20kΩ</td><td>Open or short-circuit</td></tr>
</table></td><td></td></tr>
<tr><td>Indoor fan motor (MF)

INNER FUSE
145 ± 2℃ CUT OFF</td><td>Measure the resistance between the terminals with a tester.
(Part temperature 10°C ~ 30°C)
<table>
<tr><th rowspan="2">Color of lead wire</th><th colspan="3">Normal</th><th rowspan="2">Abnormal</th></tr>
<tr><th>MCFZ-A12WV</th><th>MCFZ-A18WV</th><th>MCFZ-A24WV</th></tr>
<tr><td>WHT-BLK</td><td>175~190Ω</td><td>79~87Ω</td><td>80~88Ω</td><td rowspan="5">Open or short-circuit</td></tr>
<tr><td>BLK-YLW</td><td>66~72Ω</td><td>63~69Ω</td><td>44~49Ω</td></tr>
<tr><td>YLW-BLU</td><td>45~50Ω</td><td>34~38Ω</td><td>35~39Ω</td></tr>
<tr><td>BLU-BRN</td><td>30~33Ω</td><td>25~29Ω</td><td>43~47Ω</td></tr>
<tr><td>BRN-RED</td><td>22~24Ω</td><td>13~15Ω</td><td>13~15Ω</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Vane motor (MV)</td><td>Measure the resistance between the terminals with a tester.
(Part temperature 10°C ~ 30°C)
<table>
<tr><th>Color of lead wire</th><th>Normal</th><th>Abnormal</th></tr>
<tr><td>BRN-other one</td><td>328 ~ 356Ω</td><td>Open or short-circuit</td></tr>
</table></td><td> 
</td></tr>
</table>

Indoor fan does not operate.

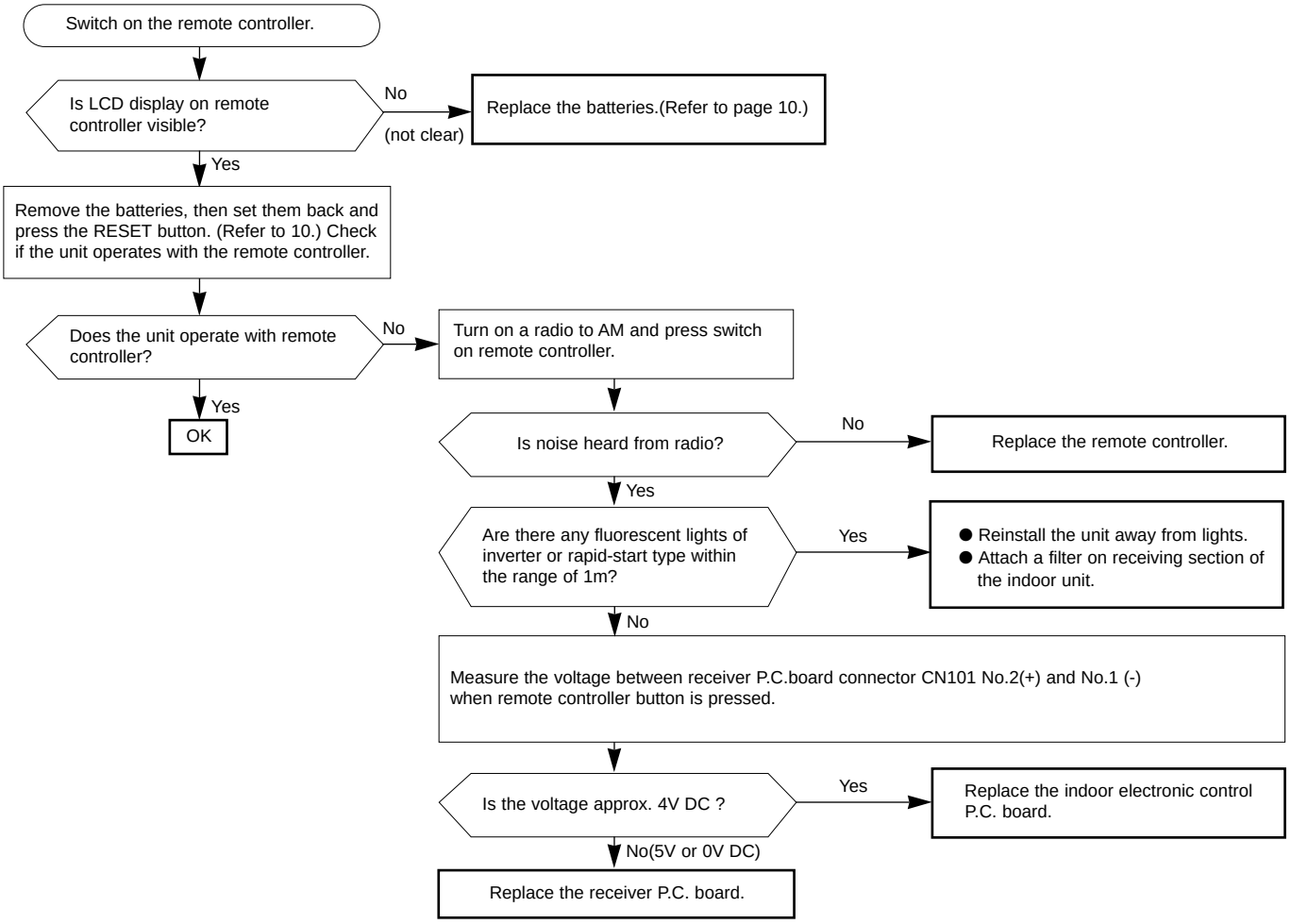
Ⓐ Check of indoor fan motor


Turn OFF power supply.
Check connector (Fan motor) visually.
No
Are lead wires connected?
Yes
Is soldered point of the connector correctly soldered?
No
Reconnect the lead wires.
Yes
Resolder it.
Disconnect lead wires from connector (Indoor fan motor).
Measure resistance between lead wires No.1 and No.4 and then No.3 and No.4 of the indoor fan motor.
Is resistance 0 (short circuit) or ∞ (open circuit)?
No (others)
Replace the indoor electronic control P.C. board.
Yes (0 or ∞)
Replace the indoor fan motor.

Indoor unit operates by pressing the EMERGENCY OPERATION switch, but does not operate with the remote controller.

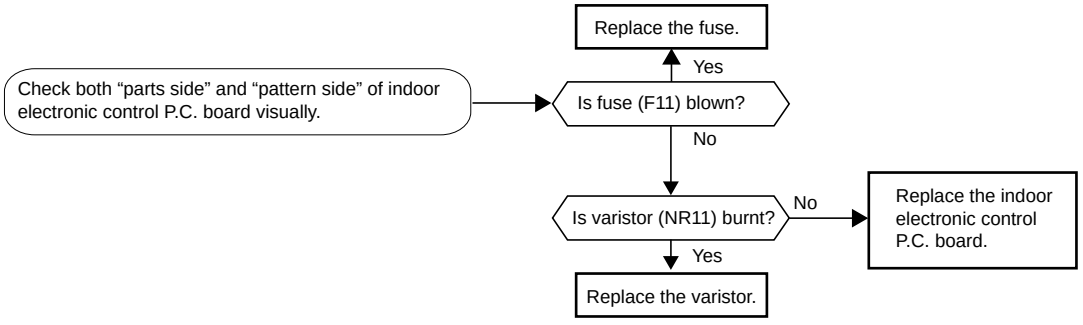
Ⓑ Check of remote controller and receiver P.C. board

※ Check if the remote controller is exclusive for this air conditioner.


Switch on the remote controller.
Is LCD display on remote controller visible?
No
(not clear)
Replace the batteries.(Refer to page 10.)
Yes
Remove the batteries, then set them back and press the RESET button. (Refer to 10.) Check if the unit operates with the remote controller.
Does the unit operate with remote controller?
No
Turn on a radio to AM and press switch on remote controller.
Yes
OK
Is noise heard from radio?
No
Replace the remote controller.
Yes
Are there any fluorescent lights of inverter or rapid-start type within the range of 1m?
Yes
● Reinstall the unit away from lights.
● Attach a filter on receiving section of the indoor unit.
No
Measure the voltage between receiver P.C.board connector CN101 No.2(+) and No.1 (-) when remote controller button is pressed.
Is the voltage approx. 4V DC ?
Yes
Replace the indoor electronic control P.C. board.
No(5V or 0V DC)
Replace the receiver P.C. board.

The unit does not operate with the remote controller.
Also, the OPERATION INDICATOR lamp doesn't light up by pressing the EMERGENCY OPERATION switch.

Ⓒ Check of indoor electronic control P.C. board



When OPERATION INDICATOR lamp flashes ON and OFF in every 0.5-second.
Outdoor unit does not operate.

Ⓓ How to check mis-wiring and serial signal error (when outdoor unit does not work)

MCFZ-A12WV

Start

• Turn ON the power supply(Indoor unit).
• Press once EMERGENCY OPERATION switch.

After 3 minutes, mis-wiring is indicated (0.5-second ON, 0.5-second OFF) on OPERATION INDICATOR lamp on indoor unit.※

Is there any mis-wiring, poor contact, or wire disconnection? ※2

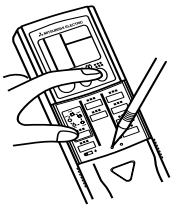
Yes → Make them sure.

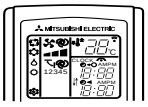
No

A

B

Turn OFF the power supply(Indoor unit).
Disconnect the indoor/ outdoor connecting wire.
Short-circuit indoor terminal block [N] and [3].
Turn ON the power supply(Indoor unit).
During pressing both the OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press the RESET button.
At first, release the RESET button.
And release the other two buttons since all LCD in operation display section of the remote controller is displayed after 3 seconds.
Transmit the signal of remote controller, pressing OPERATE/STOP (ON/OFF) button on the remote controller.
(The above procedure allows OPERATION INDICATOR lamp to indicate the failure-mode.)





•The following indication applies regardless of shape of the indicator.

Blinking

Operation Indicator

Does the right side of OPERATION INDICATOR lamp blink quickly?

No (light up or OFF) → Replace the indoor electronic control P.C. board.

Yes

Release the failure mode. ※3

Remove the short-circuit between indoor terminal block [N] and [3].
Reconnect the indoor/ outdoor connecting wire.
Turn ON the power supply(Indoor unit).
Press the EMERGENCY OPERATION switch.
Is there amplitude of 5 to 10V DC between outdoor terminal block [N] and [3] after 3 minutes (for confirmation of serial signal)?

No → Replace the indoor/ outdoor connecting wire.

Yes

Is there 230V AC between outdoor terminal block [2] and [N]?

No → Replace the indoor/ outdoor connecting wire.

Yes

1. Turn OFF the power supply.
2. Disconnect the connector (CN61) between the compressor and the power transistor module.
3. Turn ON the power supply.
4. Press the EMERGENCY OPERATION switch.

Is there voltage approximate 280V DC between LD61A (+) and LD66A (–) on the inverter P.C. board arter 3 minutes?

Yes → ※4 Replace the inverter P.C. board.

No

Turn OFF the power supply and then turn ON again.
Press EMERGENCY OPERATION switch.
After 3 minutes, is there approximate 230V AC between outdoor terminal block [2] and [N]?

Yes

No

Replace the indoor/ outdoor connecting wire.

※ Short circuit of JPG and JPS on the indoor electronic control P.C. board enables self-check to be displayed in 3 seconds.

※2 Mis-wiring may damage indoor electronic control P.C. board during the operation. Be sure to confirm the wiring is correct before the operation starts.

※3 Be sure to release the failure-mode recall function after checking.
Procedure of release of failure-mode.
① Press the EMERGENCY OPERATION switch.
② Turn OFF the power supply.
③ Press the RESET button on the remote controller.

A
· Turn OFF inverter-controlled lighting equipment.
· Turn OFF the power supply and then turn ON again(Indoor unit).
· Press the EMERGENCY OPERATION switch.

Is mis-wiring indicated when the contactor (52C) on the indoor electronic control P.C. board turns ON 3 minutes later?

No → · Reinstall either the unit or the light each other away.
· Attach a filter on receiving section of the indoor unit.

Yes

B

※4 Be careful to the residual voltage of smoothing capacitor.
As for outdoor units MUZ-A12YV and MUZ-A12YVH, refer to service manual OB328 REVISED EDITION-A.

MCFZ-A18WV
MCFZ-A24WV

Start

• Turn ON the power supply (Indoor/ outdoor unit).
• Press once EMERGENCY OPERATION switch.

After 3 minutes, mis-wiring is indicated (0.5-second ON, 0.5-second OFF) on OPERATION INDICATOR lamp on the indoor unit.※

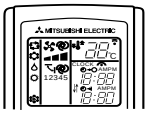
※ Short circuit of JPG and JPS on the indoor electronic control P.C. board enables self-check to be displayed in 3 seconds.

Is there any mis-wiring, poor contact, or wire disconnection? ※2

Yes → Make them sure.

No

A



B

Turn OFF the power supply (Indoor/ outdoor unit).
Disconnect the indoor/ outdoor connecting wire.
Short-circuit indoor terminal block [N] and [3].
Turn ON the power supply (Indoor/ outdoor unit).
During pressing both the OPERATION SELECT button and TOO COOL button on the remote controller at the same time, press the RESET button.
At first, release the RESET button.
And release the other two buttons since all LCD in operation display section of the remote controller is displayed after 3 seconds.
Transmit the signal of remote controller, pressing OPERATE/STOP (ON/OFF) button on the remote controller.
(The above procedure allows OPERATION INDICATOR lamp to indicate the failure-mode.)

※2 Mis-wiring may damage indoor electronic control P.C. board during the operation. Be sure to confirm the wiring is correct before the operation starts.

•The following indication applies regardless of shape of the indicator.

Blinking

Operation Indicator

Does the right side of OPERATION INDICATOR lamp blink quickly?

No (light up or OFF) → Replace the indoor electronic control P.C. board.

Yes

Release the failure mode. ※3

Remove the short-circuit between indoor terminal block [N] and [3].
Reconnect the indoor/ outdoor connecting wire.
Turn ON the power supply (Indoor/ outdoor unit).
Press the EMERGENCY OPERATION switch.
Is there amplitude of 5 to 10V DC between outdoor terminal block [N] and [3] after 3 minutes (for confirmation of serial signal)?

No → Replace the indoor/ outdoor connecting wire.

Yes

Is there 230V AC between outdoor terminal block [L] and [N]?

No → Reconnect the power supply cable.

Yes

Is there 325V DC between CN801 ① and ③ on the outdoor electronic control P.C. board?

No → Check of power supply.

Yes

Replace the outdoor electronic control P.C. board.

※3 Be sure to release the failure-mode recall function after checking.
Procedure of release of failure-mode.
① Press the EMERGENCY OPERATION switch.
② Turn OFF the power supply (Indoor/ outdoor unit).
③ Press the RESET button on the remote controller.

A

· Turn OFF inverter-controlled lighting equipment.
· Turn OFF the power supply and then turn ON again (Indoor/ outdoor unit).
· Press the EMERGENCY OPERATION switch.

After 3 minutes, is mis-wiring indicated on OPERATION INDICATOR lamp on the indoor unit?

No →
· Reinstall either the unit or the light each other away.
· Attach a filter on receiving section of the indoor unit.

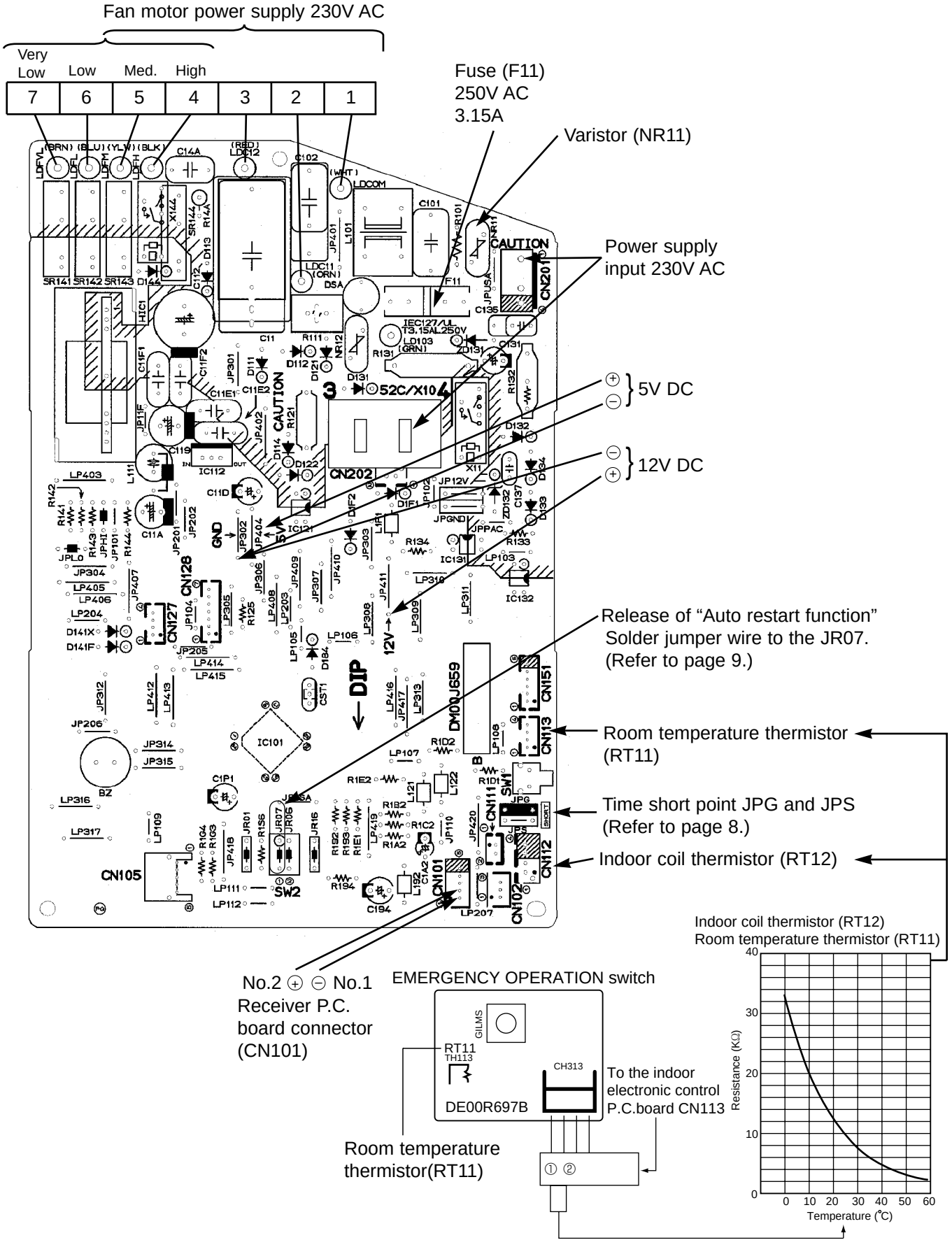
Yes

B

As for outdoor units MUZ-A18YV and MUZ-A24YV, refer to service manual OB346 REVISED EDITION-A.

TEST POINT DIAGRAM AND VOLTAGE
MCFZ-A12WV -E1

Indoor electronic control P.C. board

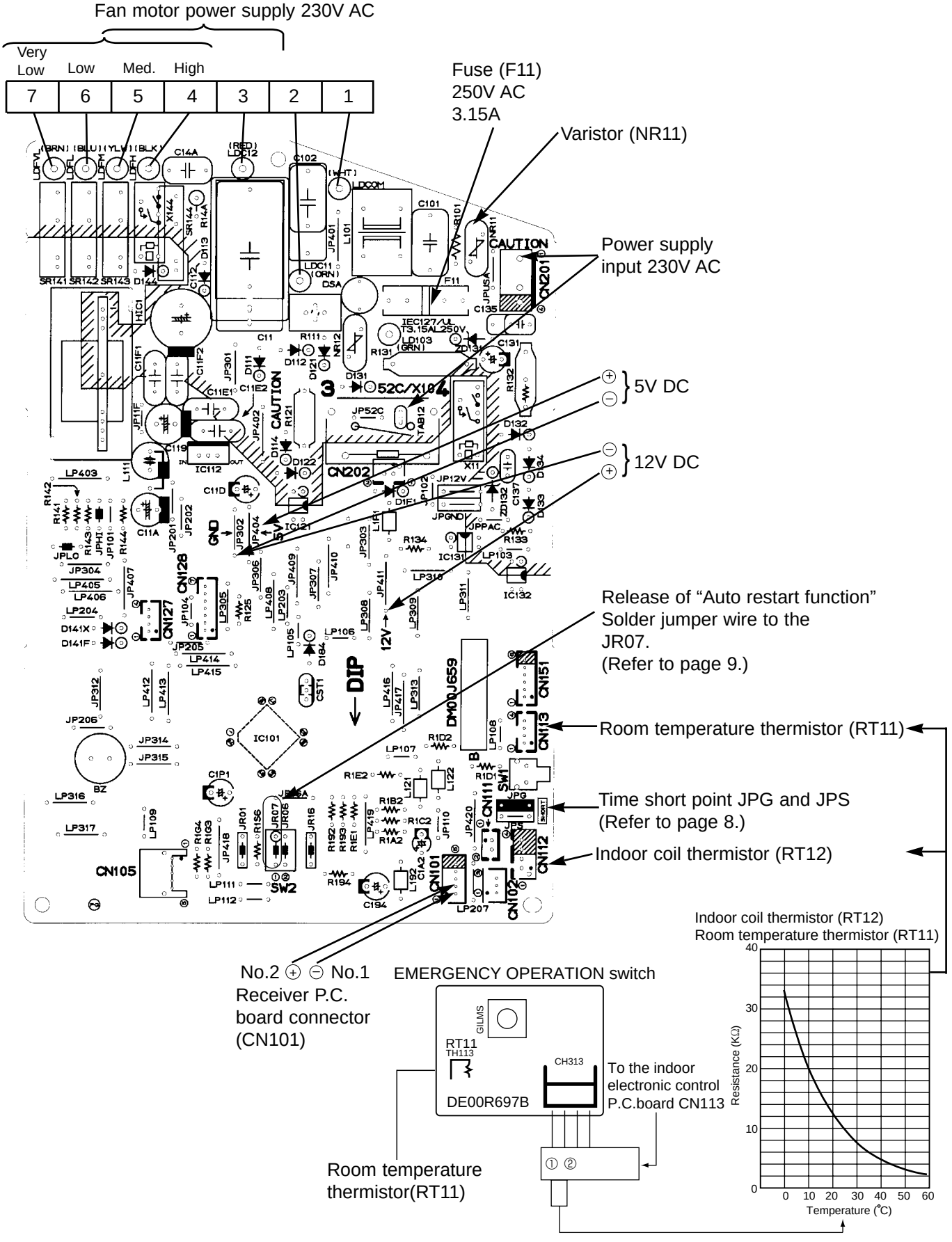


TEST POINT DIAGRAM AND VOLTAGE

MCFZ-A18WV - E1

MCFZ-A24WV - E1

Indoor electronic control P.C. board

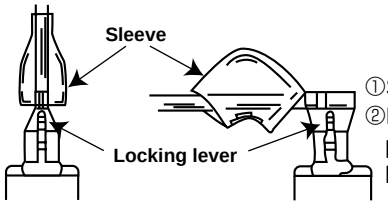


9 DISASSEMBLY INSTRUCTIONS

<"Terminal with lock mechanism" Detaching points>

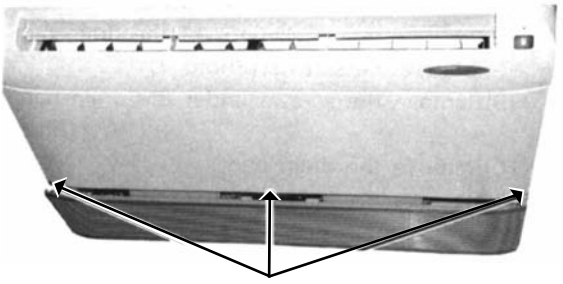
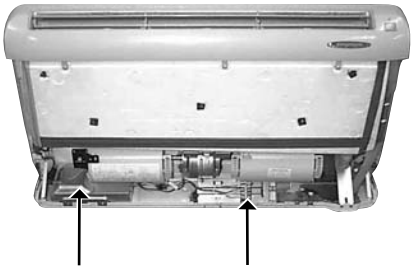
In case of terminal with lock mechanism, detach the terminal as shown below.
There are two types (Refer to (1) and (2)) of the terminal with lock mechanism.
The terminal with no lock mechanism can be removed by pulling it out.
Check the shape of the terminal and work.

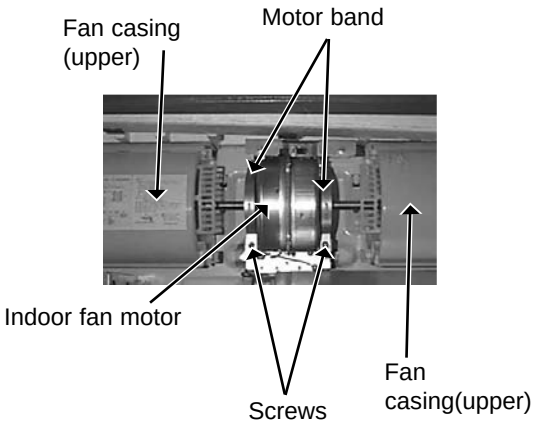
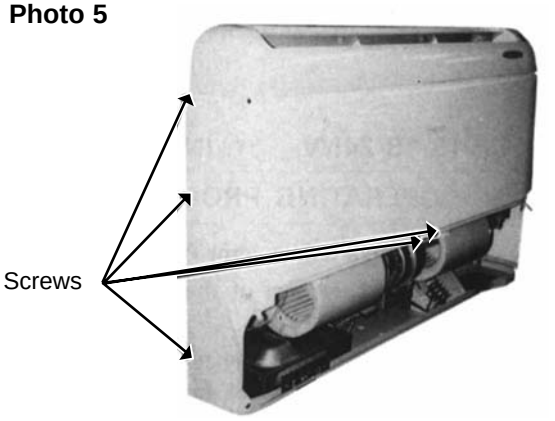
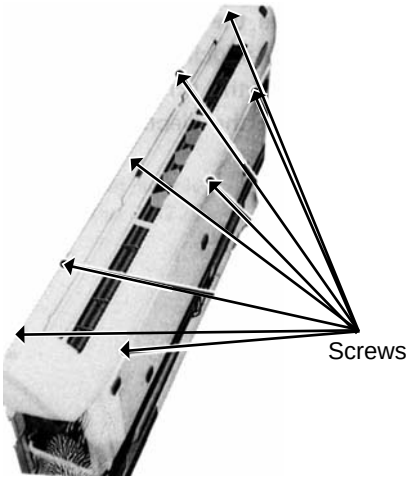
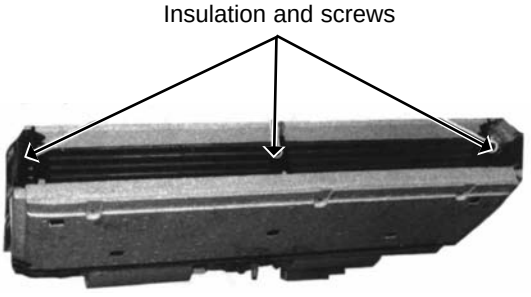
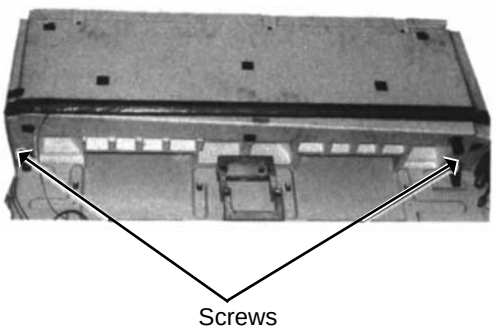
Slide the sleeve and check if there is a locking lever or not.



①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

MCFZ-A12WV -E1 MCFZ-A18WV -E1 MCFZ-A24WV -E1
INDOOR UNIT

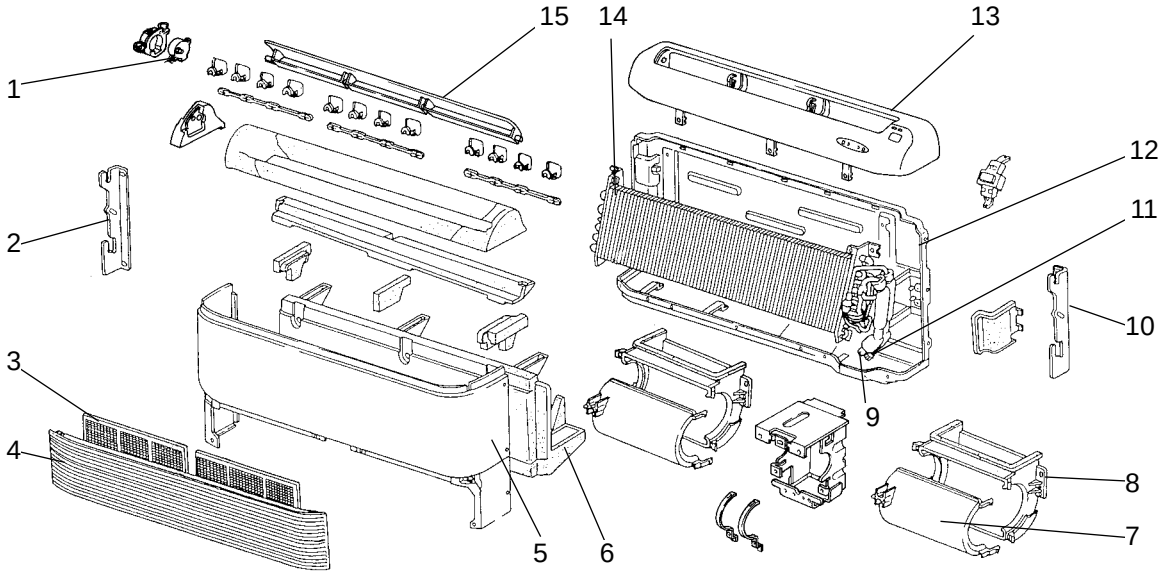
OPERATING PROCEDURE	PHOTOS
1. Removing the electronic control P.C. board. (1) Pull out the upper part of the grille. (Photo 1) (2) Remove the screws of the grille. (3) Remove screws of terminal block cover. Remove the terminal block cover and remove the terminal block. (4) Remove the screws of the electronic box cover. (5) Pull out the electronic control P.C. board. **Photo 3** **MCFZ-A12WV** Electronic control P.C. board **MCFZ-A18WV** **MCFZ-A24WV** Electronic control P.C. board	**Photo 1**  Screws **Photo 2**  Electronic box Terminal block

OPERATING PROCEDURE	PHOTOS
2. Removing the indoor fan motor (1) Remove the grille. (Refer to 1(1) (2).) (2) Remove the fan casing.(upper) (3) Disconnect the connector of the indoor fan motor. (4) Disconnect the ground wire of the fan motor. (5) Remove the screws of the motor band and remove the catch. (6) Take out the sirocco fan and the indoor fan motor.	**Photo 4** 
3. Removing the indoor heat exchanger. (1) Remove the grille. (Refer to 1(1) (2).) (2) Remove the screws on both side and in front of the front panel. (Photo 5) (3) Remove the screws of the nozzle assembly. (Photo 6) (4) Remove the electronic box. (Refer to 1.) (5) Remove the indoor fan motor. (Refer to 2.) (6) Remove the screws of the motor support. (7) Remove the fan casing. (Iower) (8) Remove the insulation of the drain pan and remove the screws. (Photo 7) (9) Remove the screws under the drain pan. (Photo 8) (10) Remove the drain pan. (11) Remove the indoor heat exchanger.	**Photo 5** 
Photo 6  	**Photo 7**  **Photo 8** 

10 PARTS LIST

MCFZ-A12WV - E1 (WH)
MCFZ-A18WV - E1 (WH)
MCFZ-A24WV - E1 (WH)

10-1. INDOOR UNIT STRUCTURAL PARTS

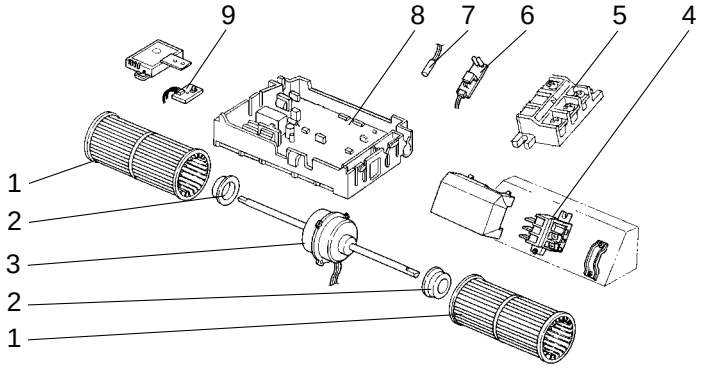


Part number that is circled is not shown in the illustration.

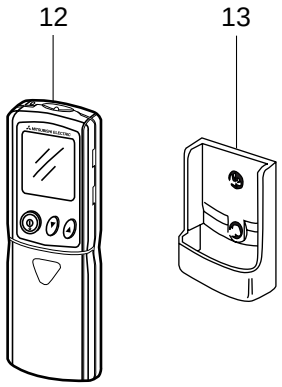
No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MCFZ-A12WV - E1 (WH)	MCFZ-A18WV - E1 (WH)	MCFZ-A24WV - E1 (WH)	
1	E02 227 303	VANE MOTOR	MV	1	1	1	
2	E02 179 971	INSTALLATION METAL (L)		1	1	1	
3	E02 179 100	AIR FILTER		2	2	2	
4	E02 179 010	GRILLE (WH)		1	1	1	
5	E02 179 000	FRONT PANEL (WH)		1	1	1	
6	E02 215 700	DRAIN PAN		1	1	1	
7	E02 179 237	FAN CASING (U)		2	2	2	
8	E02 179 238	FAN CASING (L)		2	2	2	
9	E02 151 666	UNION (GAS)		1			ϕ9.52
	E02 179 667	UNION (GAS)			1		ϕ12.7
	E02 138 666	UNION (GAS)				1	ϕ15.88
10	E02 179 972	INSTALLATION METAL (R)		1	1	1	
11	E02 138 667	UNION (LIQUID)		1	1	1	ϕ6.35
12	E02 179 231	BACK PANEL (IN)		1	1	1	
13	E02 227 235	NOZZLE (WH)		1	1	1	
14	E02 823 620	INDOOR HEAT EXCHANGER		1			
	E02 824 620	INDOOR HEAT EXCHANGER			1	1	
15	E02 227 040	VANE (WH)		1	1	1	
⑯	E02 179 142	GRILLE CATCH (WH)		3	3	3	3PCS/SET

MCFZ-A12WV -E1(WH)
MCFZ-A18WV -E1(WH)
MCFZ-A24WV -E1(WH)

10-2. INDOOR UNIT ELECTRICAL PARTS



10-3. ACCESSORY AND REMOTE CONTROLLER



10-2. INDOOR UNIT ELECTRICAL PARTS

Part numbers that are circled are not shown in the illustration.

No.	Part No.	Part name	Symbol in Wiring Diagram	Q'ty/unit			Remarks
				MCFZ-A12WV -E1 (WH)	MCFZ-A18WV -E1 (WH)	MCFZ-A24WV -E1 (WH)	
1	E02 179 500	SIROCCO FAN		2	2	2	
2	E02 179 505	FAN MOTOR RUBBER MOUNT		2	2	2	2PCS/SET
3	E02 228 300	INDOOR FAN MOTOR	MF	1			RB4V25-□□
	E02 229 300	INDOOR FAN MOTOR	MF		1		RB4V36-□□
	E02 684 300	INDOOR FAN MOTOR	MF			1	RB4V36-□□
4	E02 842 375	TERMINAL BLOCK	TB2	1			4P
	E02 826 375	TERMINAL BLOCK	TB2		1	1	3P
5	E02 823 375	TERMINAL BLOCK	TB1	1	1	1	3P
6	E02 227 468	RECEIVER P.C. BOARD	DISP/RECEIVER P.C. BOARD	1	1	1	
7	E02 327 307	INDOOR COIL THERMISTOR	RT12	1	1	1	
8	E02 842 452	ELECTRONIC CONTROL P.C. BOARD		1			
	E02 875 452	ELECTRONIC CONTROL P.C. BOARD			1		
	E02 876 452	ELECTRONIC CONTROL P.C. BOARD				1	
9	E02 215 328	SWITCH & ROOM TEMPERATURE THERMISTOR P.C. BOARD	SW/THERMO P.C. BOARD	1	1	1	
⑩	E02 820 385	VARISTOR	NR11	1	1	1	
⑪	E02 127 382	FUSE	F11	1	1	1	3.15A

10-3. ACCESSORY AND REMOTE CONTROLLER

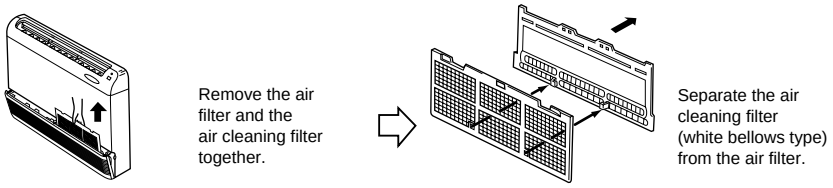
12	E02 842 426	REMOTE CONTROLLER		1			KG04B
	E02 826 426	REMOTE CONTROLLER			1	1	KG04C
13	E02 527 083	REMOTE CONTROLLER HOLDER		1	1	1	

11 OPTIONAL PARTS

MCFZ-A12WV -E1 MCFZ-A18WV -E1 MCFZ-A24WV -E1

11-1. AIR CLEANING FILTER

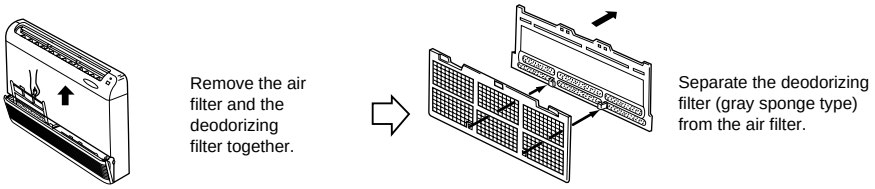
- If the air cleaning filter is clogged, it may lower the unit's capacity or cause condensation at the air outlet.
- The air cleaning filter is disposable. The standard usable term is about 4 months. However, if the color of the filter turns to dark brown, replace soon.


Remove the air filter and the air cleaning filter together.
Separate the air cleaning filter (white bellows type) from the air filter.

Models	Part No.
MCFZ-A12WV -E1 **MCFZ-A18WV -E1** **MCFZ-A24WV -E1**	MAC - 1200 FT

11-2. DEODORIZING FILTER

- Clean the filter every two weeks. When it becomes too dirt, clean it more often.
- Replace the filter with a new one when its color can not be restored even after washing or when the filter becomes dark.
- Standard interval for the filter replacement is about 1 year.


Remove the air filter and the deodorizing filter together.
Separate the deodorizing filter (gray sponge type) from the air filter.

Models	Part No.
MCFZ-A12WV -E1 **MCFZ-A18WV -E1** **MCFZ-A24WV -E1**	MAC - 1700 DF

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